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## PATENT SPECIFICATION



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179,828

Complete Accepted : May 18, 1922.

### COMPLETE SPECIFICATION.

#### An Improved Stand for Engines, Gear Boxes and the like.

I, CHARLES ARTHUR ELKINGTON WARDE, a British subject, of Phoenix Garage, Barnett Wood Lane, Ashted, Surrey, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention has reference to a stand or support for engines, such as the internal combustion and other engines of motor cars and the like, and also for gear boxes and other appliances, and upon which the engine or the like, when taken down from the vehicle or the like may be mounted and bolted for repair, attention and general bench work.

The usual and known type of stand to which the invention relates consists generally of side frames spaced apart and parallel on a mounted or a movable base, and a tipping engine support pivoted to the tops of said side frames, whereby the engine or the like can be turned upside down or to any requisite angle, means being provided to lock the support proper in the required position.

A stand according to the present invention is constructed of light tubular members, the four standards, which comprise in pairs the two side frames, being erected from a rectangular base, each pair of up-rights converging towards the top. The tops are mounted in upper castings or equivalents to which two normally horizontal carriers or supports proper are pivoted respectively, one on each side. An important feature of the present invention resides in mounting one side frame with the feet of its legs formed with tubular T-pieces and slidable on transverse members of the tubular rect-

angular base so that the width of the stand and the space between the bearers is adjustable at will to suit requirements, although the adjustability of one side frame on a base is *per se* not new. A further feature of the invention is the construction, detachability and adjustability of the bearers, whereby engines with either vertical bolting or horizontal bolting may be mounted on the one stand without the introduction of extraneous fittings for adaptation. A further object is to provide improved locking means for the pivoted bearers.

And in order that the said invention may be clearly understood reference is directed to the following description of a practical embodiment thereof, and to the accompanying drawings referred to in said description; and in said drawings:—

Figure 1 is a side view of a complete stand,

Figure 2 is a plan view thereof, and Figure 3 is an end view thereof;

Figure 4 is an enlarged detail view of the method of mounting the slidable side support.

Figure 5 being a front view thereof.

Figure 6 is an enlarged detail, in section, taken on the line *x, x*, Figure 1, to show the locking and pivot mechanism for the top bearers.

Figure 7 is a perspective view showing a carrier casting, stamping or the like to which the bearers are secured, and showing also in dot-and-dash lines two portions of the said bearers in alternative positions with relation to the carrier.

Like letters of reference indicate corresponding parts in the several views.

Referring to the drawings, the base consists of a rectangular assembly of

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tubular members *a* supported from the ground by a pair of spherical castors *b* and two run-wheels *c*. One side frame is formed by standards *d, d* erected from elbows *e* on the base corners. The other side frame is formed by standards *f, f* erected from tubular T-pieces *g* which can slide on the bottom transverse parallel members of the base *a*, and be locked in the required position by set screws *h*—see more particularly Figures 4 and 5. Thus, the width between the side *f, f* and the side *d, d* is capable of adjustment to enable the stand to be used for various widths of the different types of engines. The pairs of standards *f, f* and *d, d* converge together respectively and fit into upper castings or equivalents *i*. To each of said castings *i* is pivoted a carrier *j* of angle section, the screw *k* serving for a pivotal attachment. The screw *k* engages the orifices *k\** formed through the boss *k\*\** in the preferred form more particularly seen in Figure 7. As a means for securing these pivoted carriers in the requisite position, *i.e.* in the position illustrated or upside down, there is furnished a clamping screw *l* which positively engages one or other of a pair of recesses or apertures *m* in the vertical web of the carrier. Detachably mounted on each of the carriers *j* is a bearer *n* of H-section, or substantially of that section, or of spaced parallel bars such for instance as illustrated with two side webs and central spacers *n\**. When a usual H-iron is used, the central web would be cut away at intervals, the space or spaces between the side webs being for the purpose of permitting the bolting of engines thereto. The said bearers *n* are secured by set-pins *n\*\** with their side webs vertical or horizontal to the flanges, vertical or horizontal respectively, of the carriers

*j*, threaded holes *j\** being provided for this purpose.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

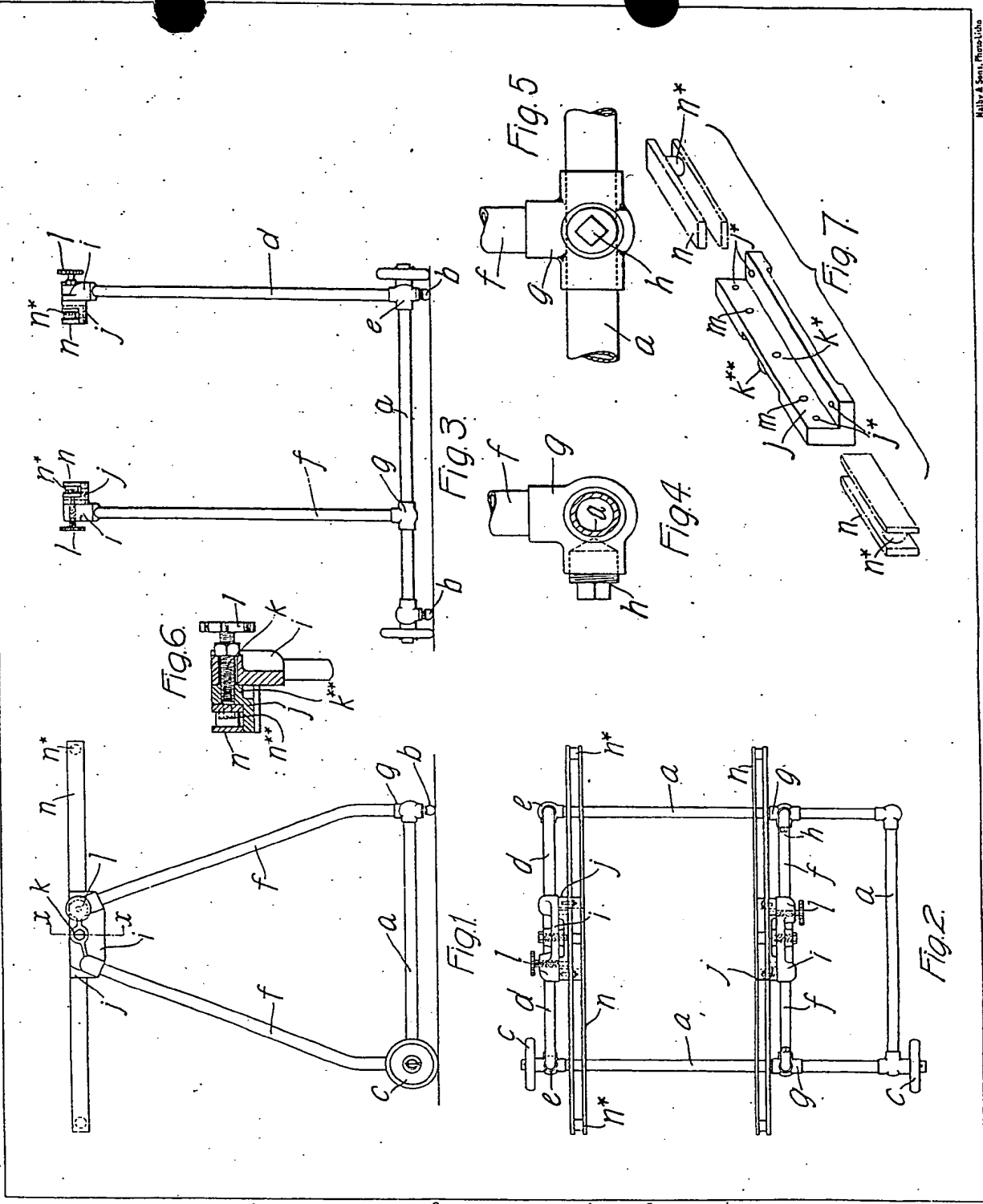
1. A stand for engines and other appliances characterized by a rectangular base of tubular members with elbows at two corners in which are mounted the feet of two tubular standards forming one fixed side frame, two slidable tubular T-pieces mounted on the transverse tubes of the base respectively, said T-pieces carrying the tubular standards forming the other side frame which is accordingly movable, locking set-screws for the T-pieces, wheels and castors to the base, the side frame standards converging upwards and carrying top castings or equivalents, carriers pivoted to said castings, and clamping means for said carriers.

2. In stands according to Claim 1, the method of pivoting and mounting L-shape carriers in combination with the arrangement of substantially H-shape bearers, and the clamping means substantially as herein described with more particular reference to Figure 6 of the accompanying drawings.

3. The improved stand substantially as herein described with reference to the accompanying drawings.

Dated the 13th day of May, 1921.

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Fig. 6.

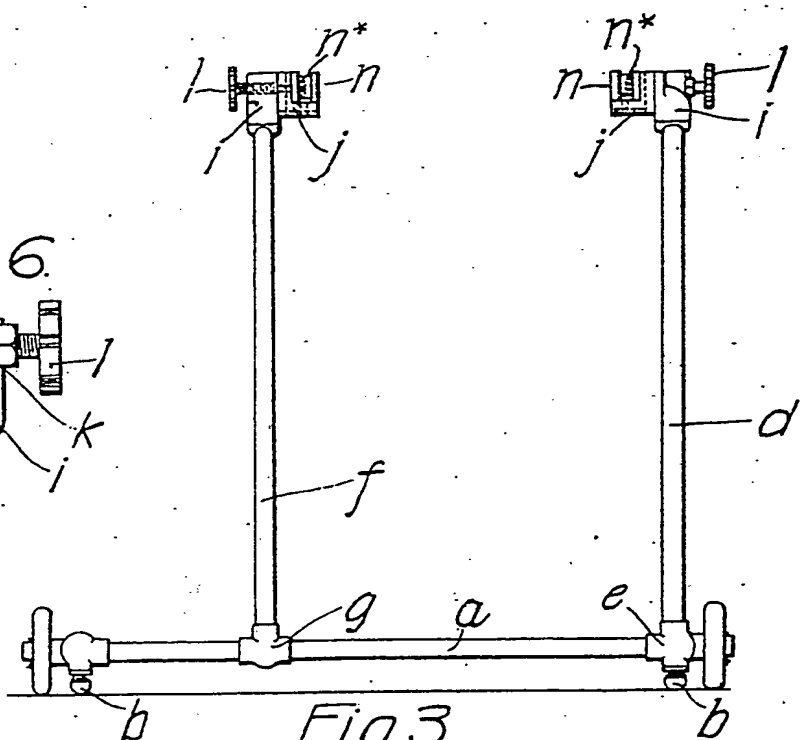
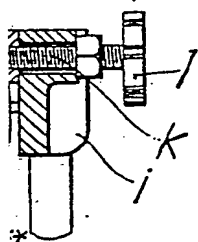


Fig. 3.

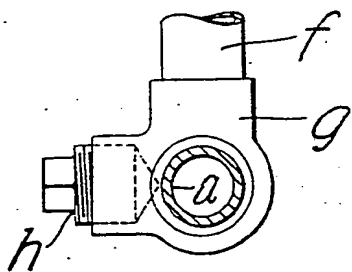


Fig. 4.

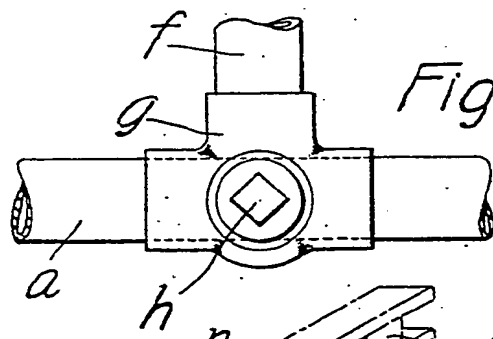


Fig. 5.

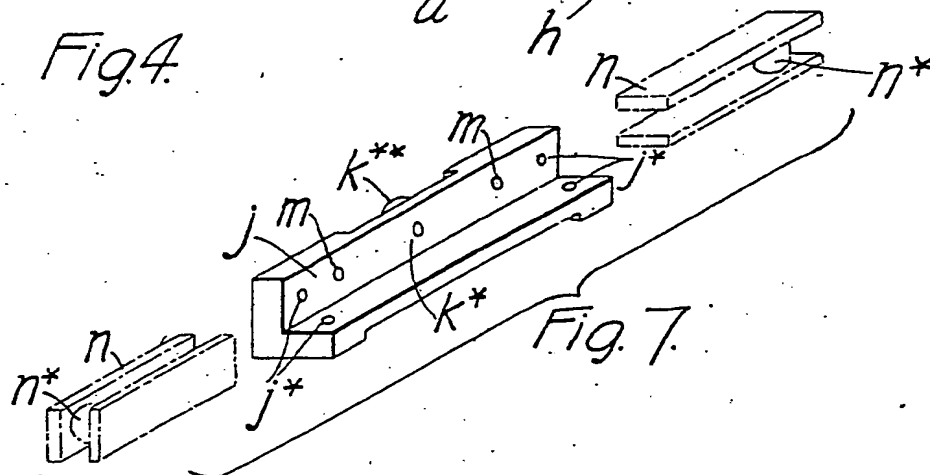


Fig. 7.

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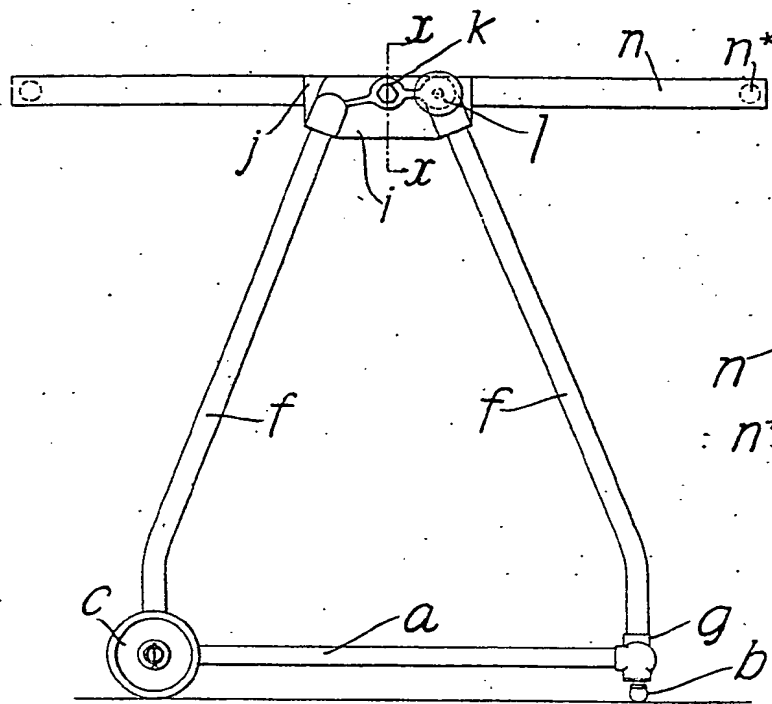


Fig. 1.

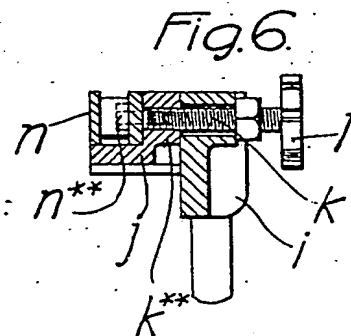


Fig. 6.

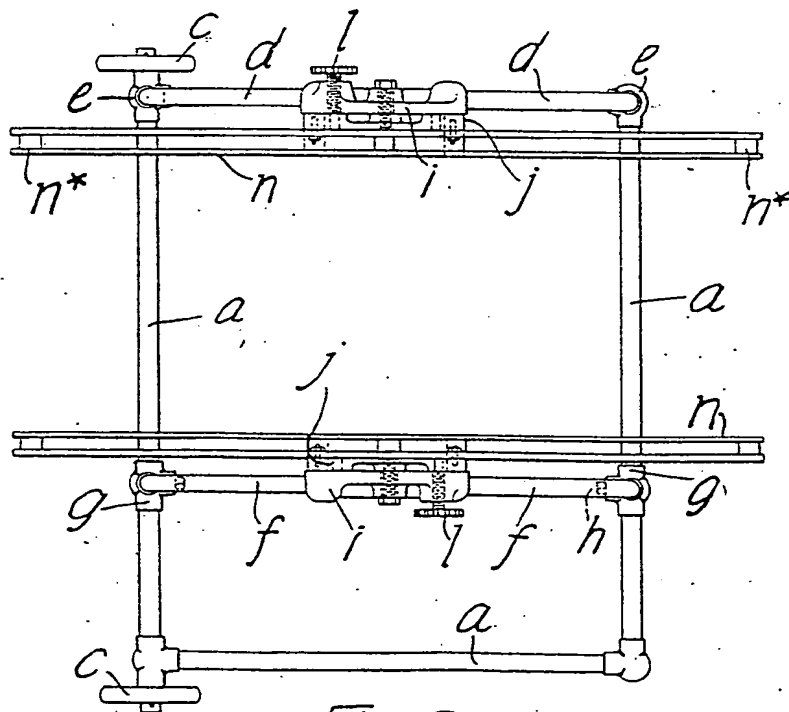
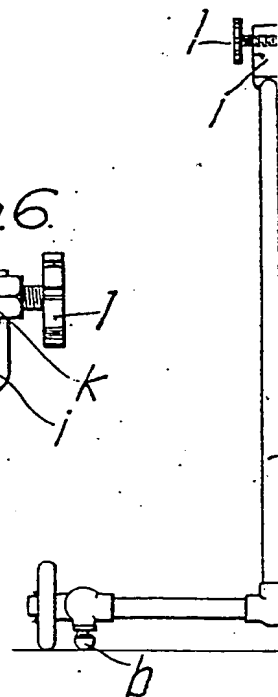


Fig. 2.

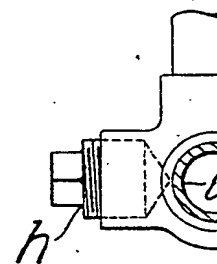


Fig.



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